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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,204	01/13/2005	Robert Link	P04,0299	3771

26574 7590 07/06/2006

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EXAMINER	
ZIMMERMAN, JOSHUA D	

ART UNIT	PAPER NUMBER
2854	

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/505,204	LINK, ROBERT	
	Examiner	Art Unit	
	Joshua D. Zimmerman	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *48-62 and 65-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *48-62 and 65-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/19/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of Group II in the reply filed on 06/05/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

1. The restriction requirement is hereby repeated and made final.

Specification

2. Page 9, line 19 and page 10, line 29 both have the same typographical error. Both instances of "SiO2" should be "SiO_2."

Appropriate correction is required.

Claim Objections

3. Claims 48, 56, 65, 66, 67 and 68 all appear to have typographical errors. In every instance of "SiOH" or "SiO_2" the "i" in "Si" appears to be made subscript. The "i" should be a normal "i." Appropriate correction is required.

4. Claim 67 is objected to because of the following informalities: page 7, line 3 appears to have a typographical error in the phrase: "what will layer become." It is

unclear what applicant is trying to say, but for the purposes of examination, examiner interprets the phrase to be "what will later become." Appropriate correction is required.

5. Claim 67 is objected to because of the following informalities: page 7, line 7 appears to have a typographical error. "pointy" should be "point." Appropriate correction is required.

6. Claim 67 recites the limitation "the applied ink" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 57 and 62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 57 and 62 recite a limitation of the surface of a print carrier. Claim 56, from which claims 57 and 62 depend, is directed to a device to generate a print image on a carrier material. It is unclear if applicant is trying to claim the print carrier (and, thus, the surface of the print carrier as well) as part of the device.

8. Claim 68 is rejected because lines 4-7 positively recite process steps, rather than structure of a device, as required by the preamble. It is unclear if applicant is trying to claim a vapor station and a drying device as part of the claimed device.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 48,49, 52-57, 59-62 and 65-68 are rejected under 35 U.S.C. 102(b) as being anticipated by Hess (US 2002/0035938).

Regarding claim 48, Hess teaches "a method to generate a print image on a carrier material, comprising the steps of:

providing a surface of the print carrier with an SiO_2 layer (figure 1, item 12, paragraph 21, and the last sentence of paragraph 37) and a hydrophilic layer with a molecular layer thickness (claim 17) and comprising SiOH molecules via water (paragraph 21 and paragraph 51, last sentence);

in a structuring process, generating hydrophilic regions and hydrophobic regions corresponding to a structure of the print image to be printed (paragraph 14); and

before a new structuring process, cleaning the surface of the print carrier and regenerating a hydrophilic layer (paragraphs 23 and 47)."

Hess fails to explicitly teach that SiOH molecules are created by hot water vapor. However, the first sentence of paragraph 21 teaches creating the SiOH surface by a suitable wet chemical modification process, and paragraph 51 teaches creating the SiOH surface by 'laser-induced oxidation in a moist atmosphere.' One having ordinary skill in the art would recognize that when oxidization is induced by a laser in the

presence of a moist atmosphere, hot water vapor would be produced, thus generating the hydrophilic SiOH layer.

Hess also fails to explicitly teach that the method further comprises "at the surface of the print carrier, applying a fountain solution layer whereby the fountain solution layer forms only on the hydrophilic regions such that ink-attracting regions and ink-repelling regions are created corresponding to the structuring;

applying on the surface ink that adheres to the ink-attracting regions and that is not absorbed by the ink-repelling regions; and

transferring the applied ink onto the carrier material."

However, Hess does teach that the printing form is used in an offset printing process (last sentence of paragraph 46 and paragraph 54). One having ordinary skill in the art would recognize that when using a printing plate in offset lithographic printing, dampening solution is applied such that it forms only on the hydrophilic, ink-repelling regions, then ink is applied such that the ink only absorbs on the ink-attracting regions, and finally the applied ink is transferred onto the carrier material.

Regarding claim 49, Hess further teaches "wherein the hydrophilic layer on the surface of the print carrier has a thickness of less than 100 nm (claim 17)."

Regarding claim 52, Hess further teaches "wherein radiation is used for the structuring (paragraph 52)."

Regarding claim 53, Hess further teaches "wherein the radiation of at least one of a laser system, a laser, laser diodes, LEDs and a laser diode array is used (paragraph 52)."

Regarding claim 54, Hess further teaches "wherein an ink separation occurs before the transfer of the ink onto the carrier material (paragraph 54, offset printing inherently includes separating the ink before transfer onto the carrier material)."

Regarding claim 55, Hess further teaches "wherein the surface of the print carrier is one of a generated cylinder surface and a continuous band (paragraph 28)."

Regarding claim 65, Hess teaches "a method to generate a print image on a carrier material, comprising the steps of:

providing a surface of the print carrier with an SiO_2 layer (figure 1, item 12) and a hydrophilic layer comprising SiOH molecules via ... water (paragraph 51, last sentence);

in a structuring process, generating hydrophilic regions and hydrophobic regions corresponding to a structure of the print image to be printed (paragraph 14); and

before a new structuring process, cleaning the surface of the print carrier (paragraphs 23 and 47)."

Hess fails to explicitly teach that SiOH molecules are created by hot water vapor. However, the first sentence of paragraph 21 teaches creating the SiOH surface by a suitable wet chemical modification process, and paragraph 51 teaches creating the SiOH surface by 'laser-induced oxidation in a moist atmosphere.' One having ordinary skill in the art would recognize that when oxidization is induced by a laser in the presence of a moist atmosphere, hot water vapor would be produced, thus generating the hydrophilic SiOH layer.

Hess also fails to explicitly teach that the method further comprises "at the surface of the print carrier, applying a fountain solution layer whereby the fountain

solution layer forms only on the hydrophilic regions such that ink-attracting regions and ink-repelling regions are created corresponding to the structuring;

applying on the surface ink that adheres to the ink-attracting regions and that is not absorbed by the ink-repelling regions; and

transferring the applied ink onto the carrier material."

However, Hess does teach that the printing form is used in an offset printing process (last sentence of paragraph 46 and paragraph 54). One having ordinary skill in the art would recognize that when using a printing plate in offset lithographic printing, dampening solution is applied such that it forms only on the hydrophilic, ink-repelling regions, then ink is applied such that the ink only absorbs on the ink-attracting regions, and finally the applied ink is transferred onto the carrier material.

Regarding claim 67, Hess teaches "a method to generate a print image on a carrier material, comprising the steps of:

providing a print carrier with a SiO_2 coating on its surface (Figure 1, item 12, paragraph 37, last sentence and paragraph 21);"

forming on the surface a "SiOH hydrophilic molecule structure layer (paragraph 51, last sentence);

in a structuring process generating what will later become ink-attracting regions and ink-repelling regions via structuring of the molecule structure layer corresponding to a structure of the print image to be printed (paragraph 14), and wherein to structure the molecule structure layer, directing radiation of a light source via a control element (item

18) per image point onto the molecule structure layer dependent on a control signal (paragraph 43)."

Hess fails to explicitly teach that the SiOH surface is created by "charging the SiO_2 coating at the print carrier surface with a water vapor and then drying the surface to form a SiOH hydrophilic molecule structure layer." However, paragraph 51 teaches creating the SiOH surface by 'laser-induced oxidation in a moist atmosphere.' One having ordinary skill in the art would recognize that when oxidization is induced by a laser in the presence of a moist atmosphere, hot water vapor would be present, and the laser would dry the surface, thus generating the hydrophilic SiOH layer.

Further, Hess fails to explicitly teach the printing steps of "applying a fountain solution layer on the print carrier to create said ink-attracting and ink-repelling regions; and transferring the applied ink onto the carrier material." However, Hess does teach that the printing form is used in an offset printing process (last sentence of paragraph 46 and paragraph 54). One having ordinary skill in the art would recognize that when using a printing plate in offset lithographic printing, dampening solution is applied such that it forms only on the hydrophilic, ink-repelling regions, then ink is applied such that the ink only absorbs on the ink-attracting regions, and finally the applied ink is transferred onto the carrier material.

Regarding claim 56, Hess discloses "a device to generate a print image on a carrier material (figure 1), comprising:

a pre-treatment station with which an SiO_2 layer and a hydrophilic layer with a molecular layer thickness is generated on a surface of a print carrier usable for printing (paragraph 21 and the last sentence of paragraph 51);

an image generation station which, in a structuring process, generates hydrophilic regions and hydrophobic regions corresponding to a structure of the print image to be printed (paragraph 52, and paragraph 43, items 16 and 18);

a cleaning station which cleans the surface of the print carrier before a new structure process (paragraph 47)."

Hess fails to explicitly disclose "an application station which applies a fountain solution layer on the surface of the print carrier whereby the fountain solution layer forms only on the hydrophilic regions such that ink-attracting regions and ink-repelling regions are created corresponding to the print image structure;

an inking station which applies on the surface ink that adheres to the ink-attracting regions and which is not absorbed by the ink-repelling regions; and

a transfer station at which the applied ink is transferred onto the carrier material."

However, Hess does teach that the printing form is used in an offset printing process (last sentence of paragraph 46 and paragraph 54). One having ordinary skill in the art would recognize that when using a printing plate in offset lithographic printing, dampening solution is applied by an application station such that it forms only on the hydrophilic, ink-repelling regions, then ink is applied by an inking station such that the ink only absorbs on the ink-attracting regions, and finally the applied ink is transferred

by a transfer station onto the carrier material, and therefore would have included each station into the device of Hess.

Regarding claim 57, Hess further discloses "wherein the hydrophilic layer on the surface of the print carrier has a thickness of less than 100 nm (claim 17)."

Regarding claim 59, Hess further discloses "wherein radiation is used for the structuring (paragraph 52)."

Regarding claim 60, Hess further discloses "wherein the radiation of at least one of a laser system, a laser, laser diodes, LEDs and a laser diode array is used (paragraph 52)."

Regarding claim 61, Hess further discloses "wherein an ink separation occurs before the transfer of the ink onto the carrier material (paragraph 54, the offset printing press of Hess would be capable of separating the ink before transfer onto the carrier material)."

Regarding claim 62, Hess further discloses "wherein the surface of the print carrier is one of a generated cylinder surface and a continuous band (paragraph 28)."

Regarding claim 66, Hess discloses "a device to generate a print image on a carrier material (figure 1), comprising:

a pre-treatment station with which an SiO_2 layer and a hydrophilic layer is generated (last sentence of paragraph 51 and paragraph 21) on a surface of a print carrier usable for printing (item 10);

an image generation station which, in a structuring process, generates hydrophilic regions and hydrophobic regions corresponding to a structure of the print image to be printed (paragraph 52, and paragraph 43, items 16 and 18); and

a cleaning station which cleans the surface of the print carrier (paragraph 47).

Hess fails to explicitly disclose "an application station which applies a fountain solution layer on the surface of the print carrier whereby the fountain solution layer forms on the hydrophilic regions such that ink-attracting regions and ink-repelling regions are created corresponding to the print image structure;

an inking station which applies on the surface ink that adheres to the ink-attracting regions and which is not absorbed by the ink-repelling regions; and

a transfer station at which the applied ink is transferred onto the carrier material."

However, Hess does teach that the printing form is used in an offset printing process (last sentence of paragraph 46 and paragraph 54). One having ordinary skill in the art would recognize that when using a printing plate in offset lithographic printing, dampening solution is applied by an application station such that it forms only on the hydrophilic, ink-repelling regions, then ink is applied by an inking station such that the ink only absorbs on the ink-attracting regions, and finally the applied ink is transferred by a transfer station onto the carrier material, and therefore would have included each station into the device of Hess.

Regarding claim 68, Hess discloses "a device to generate a print image on a carrier material (figure 1), comprising:

a print carrier with a SiO_2 coating on its surface (items 10 and 12);

an image generating station in which a structuring process what will be come ink-attracting regions and ink-repelling regions are generated via structuring of the molecule structure layer corresponding to a structure of the print image to be printed (paragraph 52, and paragraph 43, items 16 and 18);

the image generating station having a light source whose radiation is directed via a control element (item 18) per image point toward the surface of the print carrier (paragraph 43); and

the radiation being dependent on a control signal (paragraph 43)."

Hess fails to specifically disclose the device further comprising "a damping station which applies a fountain solution layer on the print carrier to create said ink-attracting and ink-repelling regions;

an ink application station wherein ink that adheres to the ink-attracting regions and that is not absorbed by the ink-repelling regions is applied on the surface;

an ink transfer station wherein the applied ink is transferred onto the carrier material."

However, Hess does teach that the printing form is used in an offset printing process (last sentence of paragraph 46 and paragraph 54). One having ordinary skill in the art would recognize that when using a printing plate in offset lithographic printing, dampening solution is applied by an application station such that it forms only on the hydrophilic, ink-repelling regions, then ink is applied by an inking station such that the ink only absorbs on the ink-attracting regions, and finally the applied ink is transferred

by a transfer station onto the carrier material, and therefore would have included each station into the device of Hess.

Hess further fails to specifically disclose a "vapor station" or a "drying device." However, the last sentence of paragraph 51 discloses the method by which the SiOH surface can be created. Namely, the method comprises a laser-induced oxidation in a moist atmosphere. Thus, a vapor station that creates water vapor (that is, the moist atmosphere) is implied. Further, the laser that is used to induce the oxidation would also dry the surface, thus creating the SiOH hydrophilic molecule structure layer. One having ordinary skill in the art would therefore have included a vapor station and a drying station (the laser) to carry out the method described in the last sentence of paragraph 51.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 50-51 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hess, as applied to claims 48 and 56 above, respectively, in view of Gottling (US 6,006,666).

Regarding claims 50 and 58, Hess fails to specifically teach that "the cleaning and the regeneration of the hydrophilic layer occurs in a single process step." However, Hess discloses that the plate is cleaned by a conventional cleaning process (first sentence of paragraph 47), and then can be converted back to the starting state (paragraph 23). Gottling discloses a conventional method for cleaning the ink-carrying layer off of the surface of a print carrier (abstract, figure 1) that uses jets of water or steam and is simpler than other known methods (column 2, lines 15-19). Gottling further teaches that using the steam jets immediately renders the surface of an aluminum plate hydrophilic, obviating the need to re-hydrophilize the surface of the plate (column 2, lines 40-43). One having ordinary skill in the art would have been motivated to use the cleaning method and station of Gottling in the method and apparatus of Hess because it is simpler than other methods.

With respect to claim 50, when the cleaning station of Gottling is used, the cleaning and regenerating are accomplished at the same time.

With respect to claim 58, the apparatus of Hess and Gottling is capable of performing the regeneration and cleaning in a single process step.

Regarding claim 51, Gottling further teaches "wherein at least one of hot water and water vapor is used for the cleaning (column 2, lines 35-40)."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Zimmerman whose telephone number is 571-

272-2749. The examiner can normally be reached on M-R 8:30A - 6:00P, Alternate Fridays 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on 571-272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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